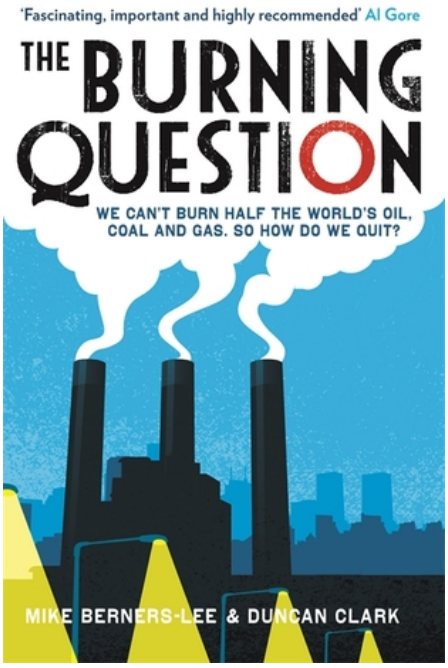

The Burning Question: We can't burn half the world's oil, coal and gas. So how do we quit?

Mike Berners-Lee , Duncan Clark

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The Burning Question: We can't burn half the world's oil, coal and gas. So how do we quit? Mike Berners-Lee , Duncan Clark
Take one complex scientific discipline. Add the future of energy, economics and geopolitics. Season with human nature ...

The Burning Question reveals climate change to be the most fascinating scientific, political and social puzzle in history. It shows that carbon emissions are still accelerating upwards, following an exponential curve that goes back centuries. One reason is that saving energy is like squeezing a balloon: reductions in one place lead to increases elsewhere. Another reason is that clean energy sources don't in themselves slow the rate of fossil fuel extraction.Tackling global warming will mean persuading the world to abandon oil, coal and gas reserves worth many trillions of dollars - at least until we have the means to put carbon back in the ground. The burning question is whether that can be done. What mix of politics, psychology, economics and technology might be required? Are the energy companies massively overvalued, and how will carbon-cuts affect the global economy? Will we wake up to the threat in time? And who can do what to make it all happen?

The Burning Question: We can't burn half the world's oil, coal and gas. So how do we quit? Details

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From Reader Review The Burning Question: We can't burn half the world's oil, coal and gas. So how do we quit? for online ebook

Mike says

If I could recommend to everyone one book I've read thus far on climate change, it would be this one. It is accessible yet detailed, without becoming overly technical. As a master's student in environmental policy, I can attest to the book's coverage of the relevant areas of the debate. (It basically covers the entire course outline of a graduate course I took on climate change but is much easier to make sense of than the academic sources we parsed through (and which they cite throughout the book.)) And it's even a quick read. If you're going to read one book on climate change, read this one!

This book does an excellent job summarizing the multifaceted issue of climate change, including in its asking the pertinent, if uncomfortable, question (in the title). If global leaders have agreed on the goal to limit global warming to 2ºC (an amount many scientists believe already exceeds the safe limit), what would it take to give us a reasonable chance of achieving that goal? Well, even for a 50/50 chance, we would need to leave 50% of the world's proven reserves of fossil fuels in the ground. Essentially, we have already proven the existence of more fossil fuels than we can safely burn, and the value of these fossil fuels has already been factored into the value of our energy companies. This has many ramifications for society and the economy, which are discussed in this book.

One area I would have liked to see explored in greater detail: what are the philosophical underpinnings for the normative position assumed by the authors? Who's to say we should do anything about climate change? Just because we know it's going to happen doesn't mean we should necessarily do anything about it. The science doesn't tell us what we should do. Science can't tell us that; that's for politics to decide. For these reasons, the book might not be compelling to someone who doesn't already share the authors' worldview on what should be done about climate change. An explication of the philosophy would strengthen their argument.

My one real criticism, which is echoed by other reviewers, is the authors' repeated praise for Allan Savory's work, which suggests that through a certain type of livestock grazing pattern, we can turn deserts into grasslands and trap and store sufficient carbon to return the atmosphere to preindustrial levels. While the aim is admirable, Savory's claims remain highly contested and have thus far proved unrepeatable. And while such 'natural' approaches to reversing rising atmospheric CO2 levels deserve attention, the science is far from in on whether they might actually work. By repeatedly praising Savory's work before it has been scientifically proven effective, the authors somewhat undermine their own credibility on the rest of the claims they make throughout the book, which they largely get right.

Overall, however, this book still gets 5 stars for its important contribution to the discussion. It does a great job hitting on many of the relevant aspects of that discussion, including some of the complicating factors which might explain why action on such an important issue has been slow in the making. And it directs attention to the 800-pound gorilla in the room: without a global cap on greenhouse gas emissions, politicians' rhetoric about clean energy (and even their investments in it) rings empty as it is unlikely to prevent rebound effects.

Definitely worth a read!

Sara says

Who owns fossil fuels?

[Through my ratings, reviews and edits I'm providing intellectual property and labor to Amazon.com Inc., listed on Nasdaq, which fully owns Goodreads.com and in 2013 posted revenues for $74 billion and $274 million profits. Intellectual property and labor require compensation. Amazon.com Inc. is also requested to provide assurance that its employees and contractors' work conditions meet the highest health and safety standars at all the company's sites.]

Five stars only for raising this question - apparently trivial, but not at all burning in the current policy debate. The book builds on the foundational work of British NGO Carbon Tracker, and brings to the conversation a rational approach *à la* Jevons, whose "The coal question", echoed in the title, reframed in 1865 the issue of 'peak coal' through a pioneering use of statistics.

The key statistic here is the planet's 'carbon budget', combined with the CO2 potential of the fossil fuels not yet unearthed. The book is at its best when it analyzes the trade-offs of the mitigation policies that aim to keep us within the limits of the carbon budget. Applying logic, it shows how illusory some of our policies are. The weakest (and broadest) parts are those dedicated to reviewing possible solutions - from carbon capture to geo-engineering - or where the questions in point are too controversial for even starting to tackle them (e.g. you cannot answer in a few paragraphs the question "Is economic growth important?" or address the limits of human rationality).

A doubt I have about the accuracy of the carbon budget vs. CO2 potential assumption is that the authors might not be fully taking into account how the carbon cycle works. It is my understanding that roughly 50% of all the CO2 dumped into the atmosphere is absorbed by forests and oceans (to a decreasing extent as oceans acidify and forests are turned into farmed land). Factoring this in should stretch the carbon budget by a few years.

A new book expanding on the first two parts of this one, and dropping its superficial social psychology considerations and unconvincing policy recommendations, would definetely do justice to the tragic nature of the problem at hand.

Jessica Kennedy says

It puts the numbers front and centre in a bold take on climate writing. No matter what you personally think about "the climate change debate" (hint-among people who study the climate, there is none) today, this is a book that needs to be read both broadly and deeply. There is much to be done; the authors have done an excellent job in pointing out the scale of that and dicussing the approaches currently on the table.

Am Y says

Maybe it's because I've read several other books on climate change, global warming, alternative energy, and

oil, so reading this I didn't really gain anything new. If this is your first book on any of the above topics though, it may be insightful and handy, as all issues are addressed in one book. I found many chapters not concise enough though, with some chapters offering impractical solutions, or solutions any one of us could have sat down and written about ourselves.

Fidelis Satriastanti says

Fair warning, I might like all books about environment ^_^
Hokah! I learn new things on this book which has everything to do with business mindset on coal, oil, and gas. I have to force my brain and my eyes not to derailed at most of the times but Berners-Lee was trying to say is that we really really need to pay attention on how we consume our energy. We, as in people of the world, are not alert enough to realize that even though that scientists may be debating on numbers of degrees need not to raise but they all in the same chorus to say that the weather is not getting any friendlier. If we change much of earth's surface for its fossil fuel, we are not gonna last long. Well, there will be hundreds of years but we are already starting to feel its impacts. (I am not preaching, this is what the book had shown its argument and I come to buy it).

Berners-Lee put out some solution which involves Geo-engineering and has something to do with iron fertilization, protecting the ozone from the sun, and others unimaginable technology I am still lost in translation -_- I am not sure that we will get to that point but I do reason with his stance that leadership is pretty much key role for climate change action. Because, lots of politicians, like it or not, depend on fossil fuel extracting companies (and I am not surprised we are all....).

At last, the book is not all that gloom and doom (well,only the first part of it). It gives a bit of solution if not knowledge and argument why we can't burn half the world's oil, coal and gas.

Happy reading, good people!

Jani-Petri says

Mostly good and thoughtful discussion on the challenges of responding to climate change. Nevertheless, here and there I was annoyed by uncritical or sloppy thinking. Especially annoying was their constant cheerleading of Alan Savory despite the fact that they acknowledged there is nothing to back up his claims. Such silliness undermines the rest somewhat.

Ben Thurley says

Berners-Lee and Clark have written a stark and challenging assessment of the state of the world's energy usage, our current and projected fossil fuel commitments and the likely implications for the state of the planet being warmed by our relentless extraction and exploitation of these powerful greenhouse-loading fuels.

Bill McKibben's foreword is stark:

> If the pictures of towering wildfires, devastating droughts and crippling hurricanes haven't convinced you, here are some hard numbers about climate change. May 2012 was the hottest month on record for the Northern Hemisphere – the 327th consecutive month in which the temperature of the entire globe exceeded the twentieth-century average, the odds of which occurring by simple chance were 3.7 x 10(99), a number considerably larger than the number of stars in the universe.

In a series of accessible and well-argued chapters, the authors lay out our troubles clearly and sharply:

1) Fossil fuel use and emissions has been growing exponentially for around a century.

2) Warming from these emissions of even 2°C (now almost inevitable) is extraordinarily risky and will likely bring impacts that many species and many nations will find it difficult or impossible to cope with, while warming of 4°C or more within the century (horrifyingly, all too likely on current trends) could be catastrophic.

3) The world simply cannot afford to utilise more than a fraction of the available coal, oil and gas reserves if we are to avoid these catastrophic outcomes. The authors suggest roughly 50% of available fossil fuel reserves if we want a 50% chance of restricting warming to below 2°C and just 25% of the reserves if we want a 75% chance of holding to that limit. (Recent studies suggest that the constraints are even tighter than that).

4) Humans, therefore, will need to bring about not just a deliberate peak in our use of fossil fuels, but a sharp and unprecedented decline.

5) Yet, many trends are either pointing the wrong way (global emissions continue to increase, international negotiations for a climate deal are faltering, and changes to energy use and increased efficiency seem to just free up space for increased usage or consumption elsewhere (the Jevons' paradox).

6) And powerful national and corporate extractors, exporters and users of these fossil fuel resources (along with, probably, a passive majority of people whose current lifestyles depend on burning these fossil fuels) are, at best, conflicted and, at worst, openly hostile, to any limits being placed on our fossil fuel use.

They note the difficulty of generating widespread popular concern about climate change but argue that it is only with increased popular pressure that the necessary changes will come about:

> If you wanted to invent a problem to induce confusion, disbelief and the turning of blind eyes, it would be hard to come up with something better than climate change. It's caused by a build-up of gases that we can't see, smell or taste and the effects play out through a weather and climatic system that is by its nature unpredictable and variable... Adding to the abstract nature of the problem is the fact that the most dangerous impacts are many years away. By the time we see climate changes shocking enough to act as a global weak-up call, we will be committed to many decades of worsening symptoms and it may be too late to stop runaway warming.

The book's final section turns to "six key steps that will help tackle climate change".

Sadly, for all the clear-eyed realism of the earlier outlining of the problems and challenges we face, this section is the shortest, sketchiest and most wishful. We can all agree that overcoming misinformation, striving for an effective global deal to limit greenhouse gas emissions, drastically scaling up low-carbon and carbon-capture technologies, and reducing deforestation are all things to be passionately pursued. However the chapters on these issues never really grappled with the vested interests or social and political inertias and perils that bedevil these policy and action areas.

I felt like I had a devastatingly accurate map of the energy and climate change landscape I now find myself in – for which I am extremely grateful to the authors. But their guide on how to extricate ourselves from the mess we find ourselves in is a handful of good ideas sketched out on post-it notes.

Jose Moa says

This is a great book,realistic book on the burnig fossil fuels issue.
Is a book more foccused on the economic ,politic ,sociologic faces of the subject than on the climatologic face.The book analices with detail the different sources of carbon dioxide and of methane,the quantities shared by each source and the carbon footprintsof each industry.

As the agreement by the climatologist comunity is not pass the 2º C treshold in mean temperatures for avoid unexpected climate planetary tipping points,the authors analiced the politic,economic and the collective measures we must take against the strong resistance of the fosil fuels lobbyes,its misleading information campaings and politic and mass media influence.Between this measures is that we cant burn all known or unknown reserves of fossil fuels and pass gradually to renovable energies,and the polemic nuclear power stations,also propose a utilization of soil in order to capture carbon dioxide and exposes the economic issues related with this transition.

They are not optimist in reaching the goal, as in spite all efforts the greenhouse gases concentration follow growing exponentially and say that we possibly already tresspased the treshold.
The book also develops a surprising fact : the energy efficiency paradox,a more energy efficient device almost ever produce a increase in energy consumtion,for example if for a trivial journey our car consume 20 litres of gas instead of 5litres surely we dont make the journey and by that consuming nothing,or we have a lot of led bulbes in iluminating a room instead one incandescent bulbe iluminating that room,this paradoxical rebounds they say are one of the causes of the exponential grow in energy comsumtion and fossil fuels burning.

As a explanation because the public is not aware of the problem is that the greenhouse gases dont smell ,dont are seen and the locally caotic behavior of meteorology

In the final chapters they briefly recounts the last trench of climate geoengineering and the ways we individually and colectivelly can contribute to alleviate the problem pressing to our liders to take effective neasures.

A interesting,valuable,recomendable book

Andreu Escrivà says

Un llibre essencial, no tant per les solucions que aporta com perl fer de fer-se les preguntes clau. Més que recomanable.

Simon says

Very thought provoking, clearly written.

Jules says

If I had the power to ask everyone in the world to read just one book, it would be this one. I've read a lot about the science of climate change, what needs to be done and the barriers to those actions but this book clearly and concisely summarises all these topics in a single volume. The central argument is that neither redutions in fossil fuel consumption or production alone will have an effect, they need to be made in tandem, and after outlining the huge barriers to dong both it moves on to discussing why there is no political will to tackle the greatest threat of our time.

After all the starkness of the previous chapters I found this section both the most optimistic and the most fascinating, as the advice goes against everything I've been doing in my personal life. The author suggests that the most important thing concerned people can do is talk about the issue and show that there is concern out there, in the hope this will have a ripple effect and show people it's not a strange fringe thing to care about and show politicians and business leaders in turn that this is a priority. This does actually fit in with my personal experience - although I've been interested in evironmental issues in an abstract sense since I was a teenager I first started taking concrete steps to make changes in my own life when a university lecturer of mine, who uses a wheelchair, mentioned to me that he had sold his two storey house with a stairlift and bought a bungalow because he was concerned about the availabilty of electricity in future and the morality of using it. The fact that an intelligent person I respected was taking this seriously made me take it seriously too.

I realise though that I very rarely talk about the actions I take in my own personal life for fear of coming across as preachy or superior, and for fear of seeming as though I'm judging my friend's lifestyles. This book has made me realise I need to change that. I'm by no means perfect and I recognise that a lot of what I'm able to do is because I have the time, money and privilege to do it. I cycle, don't fly, try to avoid animal products wherever possible to reduce the amount of land, fuel and water needed to feed me, grow some of my own vegetables, keep my hair short to reduce the amount of water it takes to wash it, use reuseable bags, mugs and a Mooncup and reduce consumption by buying second hand clothes and rebuilding computers. It's odd how uncomfortable it feels to say that, I can't help feeling that it comes across as smug but I do recognise that simply by living a Western lifestyle my impact is higher than it could be, and the one area I'm not prepared to compromise on is feeding my cat meat. But this book has made me realise that maybe it is important to say these sort of things. Rather easier to say online than to my friends in person though!

Radiantflux says

35th book for 2016.

Wow. Just wow. This is by far the best book on Climate Change I have read to date.

It's focus is not on the impacts of climate change, but rather where the carbon is coming from and how best we can get off our carbon habit.

This is not a typical journalistic account, where the author goes to some exotic place or interviews some scientists about what is going on, and usually put some sort of positive spin things. This is a dense, depressing, but very well argued review of the science and politics of climate change. If you want to understand the broader issues relating to climate change this is a must read.

Russell Warfield says

An absolutely essential book. Hits the reset button on the climate debate without flinching. Stone cold analysis without hysteria; laying out the situation in a clear and easily digestible way. Narrows the environmental solution to neat and uncompromising simplicity: don't burn fossil fuels. One of those books that future generations might look back on and think 'I can't believe that this got published, and it still took our grandparents so fucking long to act'.

Sean Scully says

An excellent attempt at exploring the huge subject of climate change in its entirety. Climate change is surely the biggest challenge humanity has ever faced and if we as individuals are going to be part of the solution then understanding how the problems are perpetuated and the ways to solve them is crucial; themes which the book continually explores. I completely agreed with the need to 'wake up' and actually make this a real issue rather than just a side issue. As the authors pointed out this is the first step to any real change in global policy (unless the climate really starts biting back soon and affecting fossil fuel profits and food production). I do feel there were plenty more topics they could have expanded on (especially the psychological and social barriers) but then again it was the purpose of the book to give a general picture of where we are at right now and steps to change.

All in all a great book, everything was well explained, thought provoking and concise. Can't ask for much more than that. Well worth the time and money.

Here's the podcast which got me to read the book:
http://www.guardian.co.uk/science/aud...

Benjamin Gaiser says

Really good review of current analysis and literature about climate change without the usual bias towards all-"green" policies but fresh and open minded approach.
